

# Home Health and Energy Occupations

Labor Market Analysis: San Diego County

April 2021

## Summary



This brief provides labor market information about *Home Health and Energy Occupations* to assist the San Diego and Imperial Counties Community Colleges with program development and strategic planning. *Home Health and Energy Occupations* include “Compliance Officers,” “Construction and Building Inspectors,” “Engineers, All Other,” “Environmental Engineering Technologists and Technicians,” and “Environmental Scientists and Specialists, Including Health.” According to available labor market information, *Home Health and Energy Occupations* in San Diego County have a labor market demand of 949 annual job openings (while average demand for a single occupation in San Diego County is 277 annual job openings), and four educational institutions in San Diego County supply 117 awards for these occupations, suggesting that there is a supply gap in the labor market. Entry-level and median wages for all occupations are above the living wage. This brief recommends proceeding with a new program because 1) these occupations’ entry-level and median earnings are above the living wage and 2) a supply gap exists for these positions. Colleges should note that **employers typically require a bachelor’s degree as the minimum educational requirement for these occupations.**

## Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)<sup>1</sup> system:

- **Compliance Officers** (SOC 13-1041): Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and perform other compliance and enforcement inspection and analysis activities not classified elsewhere. For this report, Compliance Officers include:
  - **Environmental Compliance Inspectors** (13-1041.01): Inspect and investigate sources of pollution to protect the public and environment and ensure conformance with Federal, State, and local regulations and ordinances.
- **Engineers, All Other** (SOC 17-2199): For this report, Engineers, All Other include:
  - **Energy Engineers, Except Wind and Solar** (17-2199.03): Design, develop, or evaluate energy-related projects or programs to reduce energy costs or improve energy efficiency during the designing, building, or remodeling stages of construction. May specialize in electrical systems; heating, ventilation, and air-conditioning (HVAC) systems; green buildings; lighting; air quality; or energy procurement.
- **Environmental Engineering Technologists and Technicians** (SOC 17-3025): Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental problems, including waste treatment and site remediation, under the direction of engineering staff or scientists. May assist in the development of environmental remediation devices.
- **Environmental Scientists and Specialists, Including Health** (SOC 19-2041): Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or public health. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources.
- **Construction and Building Inspectors** (SOC 47-4011): Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing. For this report, Construction and Building Inspectors include:
  - **Energy Auditors** (47-4011.01): Conduct energy audits of buildings, building systems, or process systems. May also conduct investment grade audits of buildings or systems.

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<sup>1</sup> The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc).

For the purpose of this report, these occupations are referred to as *Home Health and Energy Occupations*.

## Projected Occupational Demand

Between 2019 and 2024, *Home Health and Energy Occupations* are projected to increase by 504 net jobs or five percent (Exhibit 1a). During this period, employers in San Diego County are projected to hire 949 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

**Exhibit 1a: Number of Jobs for Home Health and Energy Occupations (2010-2025)<sup>2</sup>**

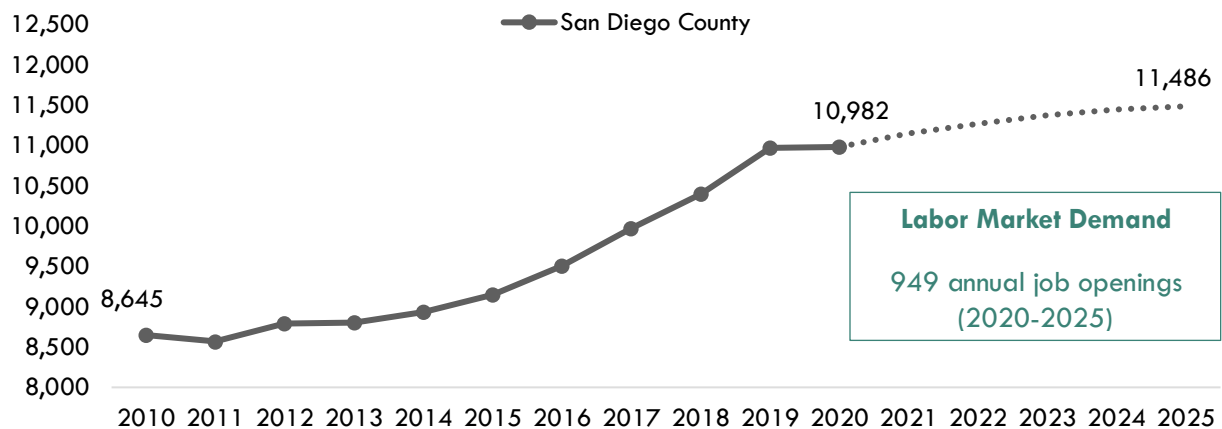


Exhibit 1b breaks down the projected number of jobs change by occupation more specifically.

“Compliance Officers” are projected to have the most labor market demand between 2020 and 2025, with 411 annual job openings (Exhibit 1b).

<sup>2</sup> EMSI 2021.01; QCEW, Non-QCEW, Self-Employed.

**Exhibit 1b: Number of Jobs for Home Health and Energy Occupations in San Diego County (2020-2025)<sup>3</sup>**

Occupational Title	2020 Jobs	2025 Jobs	2020 - 2025 Net Jobs Change	2020-2025 % Net Jobs Change	Annual Job Openings (Demand)
Compliance Officers	4,772	4,977	205	4%	411
Engineers, All Other	3,413	3,552	139	4%	233
Environmental Scientists and Specialists, Including Health	1,406	1,494	88	6%	144
Construction and Building Inspectors	1,181	1,237	56	5%	140
Environmental Engineering Technologists and Technicians	210	226	16	8%	21
<b>Total</b>	<b>10,982</b>	<b>11,486</b>	<b>504</b>	<b>5%</b>	<b>949</b>

## Earnings

The entry-level hourly earnings for *Home Health and Energy Occupations* range from **\$24.10** to **\$40.74** (Exhibit 2a).

**Exhibit 2a: Hourly Earnings for Home Health and Energy Occupations in San Diego County<sup>4</sup>**

Occupational Title	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Engineers, All Other	\$40.74	\$53.57	\$69.05
Environmental Scientists and Specialists, Including Health	\$28.07	\$36.64	\$46.01
Compliance Officers	\$27.58	\$38.88	\$45.67
Construction and Building Inspectors	\$24.87	\$34.80	\$44.24
Environmental Engineering Technologists and Technicians	\$24.10	\$28.09	\$34.73

On average, the entry-level hourly earnings for *Home Health and Energy Occupations* are **\$29.07**; this is more than the living wage for a single adult in San Diego County, which is **\$15.99** per hour (Exhibit 2b).<sup>5</sup>

**Exhibit 2b: Average Hourly Earnings<sup>6</sup> for Home Health and Energy Occupations in**

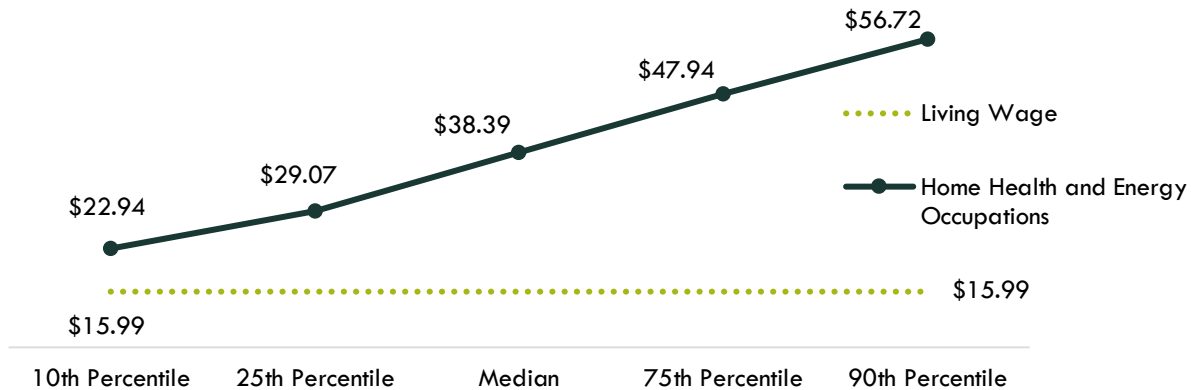
<sup>3</sup> EMSI 2021.01; QCEW, Non-QCEW, Self-Employed.

<sup>4</sup> EMSI 2021.01; QCEW, Non-QCEW, Self-Employed.

<sup>5</sup> "California Family Needs Calculator (formerly the Self-Sufficiency Standard)," Insight: Center for Community Economic Development, last updated 2018. [insightcced.org/2018-self-sufficiency-standard](https://insightcced.org/2018-self-sufficiency-standard).

<sup>6</sup> 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

### San Diego County<sup>7</sup>



## Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.<sup>8</sup> There are **five** TOP codes and **seven** CIP codes related to *Home Health and Energy Occupations* (Exhibit 3).

**Exhibit 3: Related TOP and CIP Codes for Home Health and Energy Occupations**

<i>Home Health and Energy Occupations</i>
TOP 0101.00: Agriculture Technology and Sciences, General
TOP 0303.00: Environmental Technology
TOP 0957.20: Construction Inspection
TOP 0958.00: Water and Wastewater Technology
TOP 1920.00: Ocean Technology
CIP 01.0102: Agribusiness/Agricultural Business Operations
CIP 15.0506: Water Quality and Wastewater Treatment Management and Recycling Technology/Technician
CIP 15.0507: Environmental Engineering Technology/Environmental Technology
CIP 15.0508: Hazardous Materials Management and Waste Technology/Technician
CIP 30.3201: Marine Sciences
CIP 41.9999: Science Technologies/Technicians, Other
CIP 46.0403: Building/Home/Construction Inspection/Inspector

<sup>7</sup> EMSI 2021.01; QCEW, Non-QCEW, Self-Employed.

<sup>8</sup> TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data).

According to TOP data, four community colleges supply the region with awards for this occupation: Cuyamaca College, Palomar College, San Diego Mesa College, and Southwestern College. According to CIP data, no non-community-college institution supplies the region with awards. (Exhibit 4).

**Exhibit 4: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions  
(Program Year 2014-15 through PY2018-19 Average)**

TOP6 or CIP	TOP6 or CIP Title	3-Yr Annual Average CC Awards (PY16-17 to PY18-19)	Other Educational Institutions 3-Yr Annual Average Awards (PY14-15 to PY16-17)	3-Yr Total Average Supply (PY14-15 to PY18-19)
0303.00	Environmental Technology	<b>32</b>	<b>0</b>	<b>32</b>
	• Cuyamaca	28	0	
	• Southwestern	4	0	
0957.20	Construction Inspection	<b>33</b>	<b>0</b>	<b>33</b>
	• Palomar	7	0	
	• San Diego Mesa	17	0	
	• Southwestern	9	0	
0958.00	Water and Wastewater Technology	<b>52</b>	<b>0</b>	<b>52</b>
	• Cuyamaca	28	0	
	• Palomar	24	0	
			<b>Total</b>	<b>117</b>

## Demand vs. Supply

Comparing labor demand (annual openings) with labor supply<sup>9</sup> suggests that there is a **supply gap** for these occupations in San Diego County, with **949** annual openings and **117** awards. Comparatively, there are **8,680** annual openings in California and **787** awards, suggesting that there is also a supply gap across the state<sup>10</sup> (Exhibit 5).

**Exhibit 5: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)**

	<b>Demand</b> (Annual Openings)	<b>Supply</b> (Total Annual Average Supply)	<b>Supply Gap or Oversupply</b>
San Diego	949	117	<b>832</b>
California	8,680	787	<b>7,893</b>

**Please note:** This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

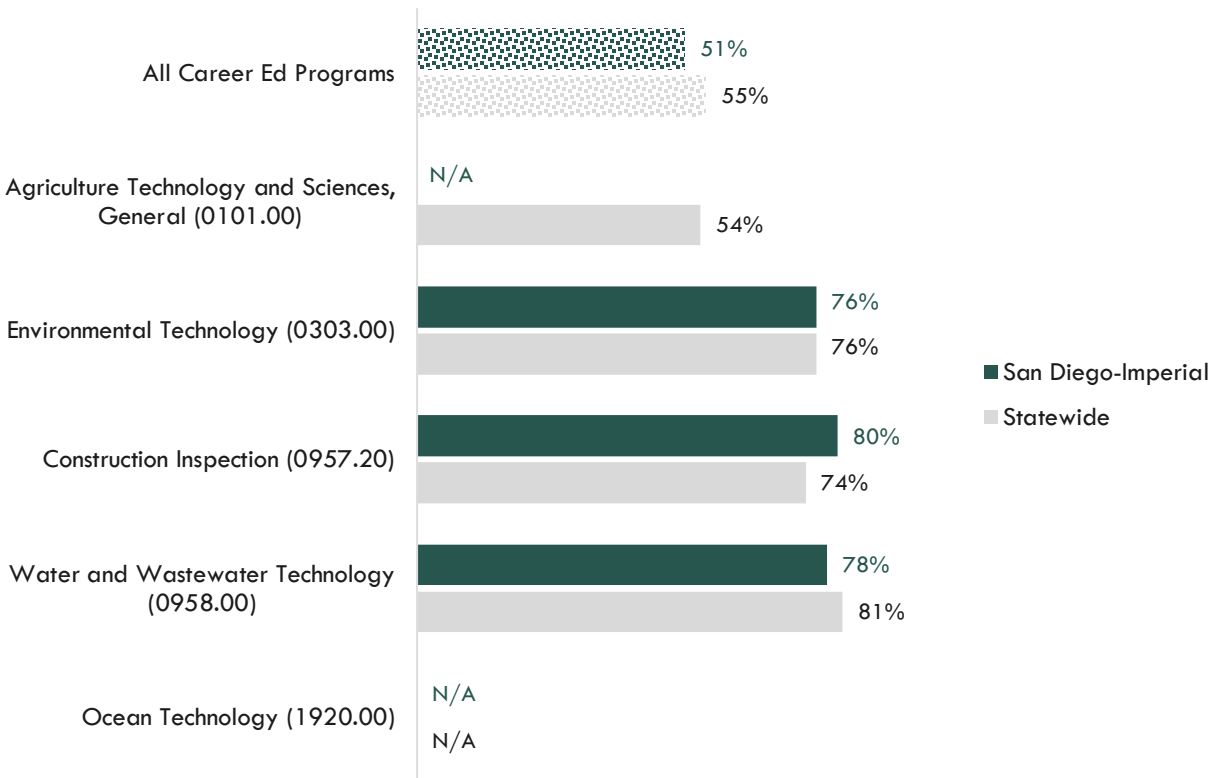
<sup>9</sup> Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

<sup>10</sup> "Supply and Demand," Centers of Excellence for Labor Market Research, [coecc.net/Supply-and-Demand.aspx](http://coecc.net/Supply-and-Demand.aspx).

## Student Outcomes and Regional Comparisons

According to the California Community Colleges LaunchBoard, 76 to 80 percent of students in the San Diego-Imperial region earned a living wage after completing a program related to *Home Health and Energy Occupations*, compared to 54 to 81 percent statewide and 55 percent of students in Career Education programs in general across the state (Exhibit 6a).

**Exhibit 6a: Proportion of Students Who Earned a Living Wage by Program (PY2017-18)<sup>11</sup>**



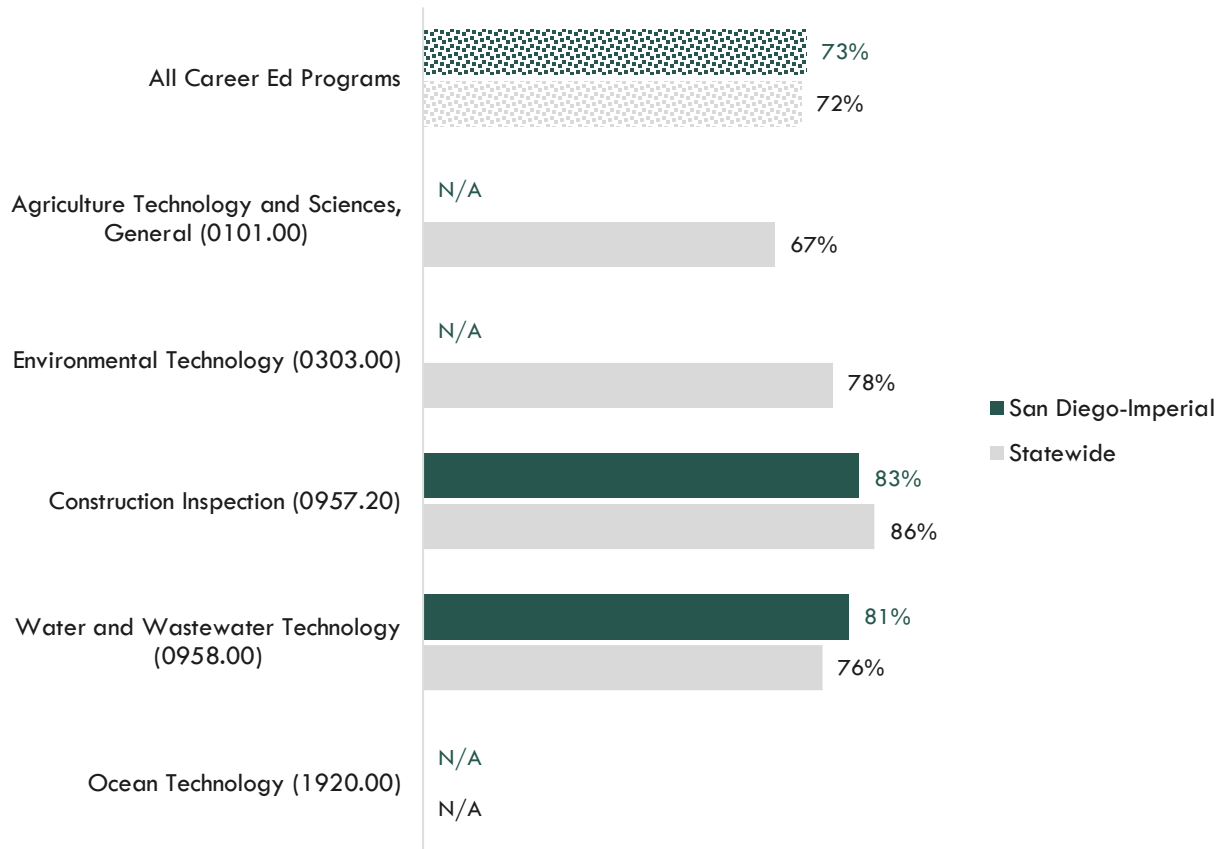
"N/A" indicates insufficient data

<sup>11</sup> Among completers and skills builders who exited, the proportion of students who attained a living wage.



According to the California Community Colleges LaunchBoard, 81 to 83 percent of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a program related to *Home Health and Energy Occupations*, compared to 67 to 86 percent statewide and 72 percent of students in Career Education programs in general across the state (Exhibit 6b).

**Exhibit 6b: Percentage of Students in a Job Closely Related to Field of Study by Program (PY2016-17)<sup>12</sup>**



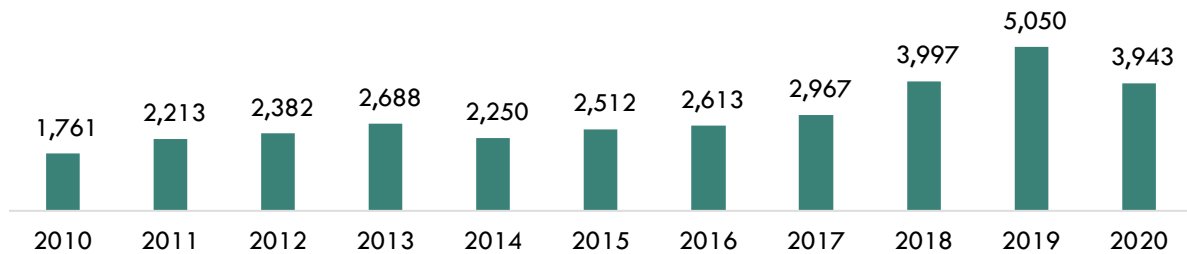
"N/A" indicates insufficient data

<sup>12</sup> Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study. [calpassplus.org/LaunchBoard/SWP.aspx](http://calpassplus.org/LaunchBoard/SWP.aspx)

## Online Job Postings

This report analyzes not only historical and projected data (traditional labor market information or LMI), but also recent data from online job postings (real-time LMI). Online job postings may provide additional insight about recent changes in the labor market that are not captured by historical data. Between 2010 and 2020, there was an average of 2,943 online job postings per year in San Diego County for *Home Health and Energy Occupations* (Exhibit 7). Please note that online job postings do not equal labor market demand; demand is represented by annual job openings (Exhibit 1 b). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

**Exhibit 7: Number of Online Job Postings for Home Health and Energy Occupations in San Diego County (2010-2020)<sup>13</sup>**



## Top Employers

Between January 1, 2018 and December 31, 2020, the top five employers in San Diego County for these occupations were *General Atomics, Northrop Grumman, Illumina Incorporated, United Technologies Corporation, and Qualcomm* (Exhibit 8).

**Exhibit 8: Top Employers in San Diego County for Home Health and Energy Occupations<sup>14</sup>**

Top Employers	
<ul style="list-style-type: none"> <li>• General Atomics</li> <li>• Northrop Grumman</li> <li>• Illumina Incorporated</li> <li>• United Technologies Corporation</li> <li>• Qualcomm</li> </ul>	<ul style="list-style-type: none"> <li>• Becton Dickinson</li> <li>• NuVasive Incorporated</li> <li>• University of California San Diego</li> <li>• Booz Allen Hamilton Inc.</li> <li>• ASML</li> </ul>

<sup>13</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2020.

<sup>14</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

## Education, Skills, and Certifications

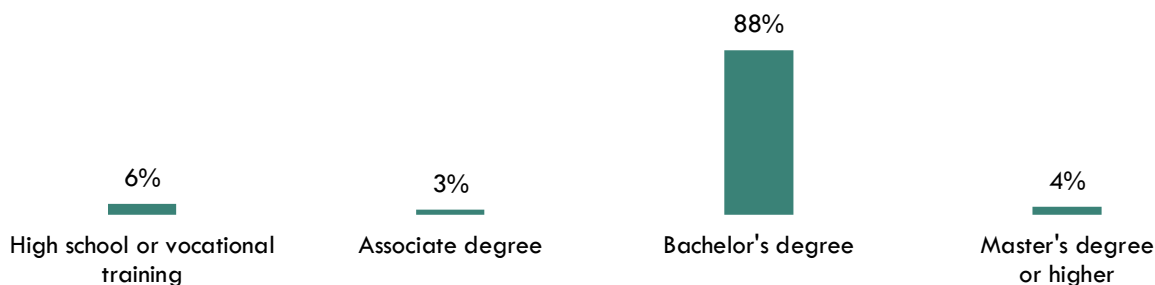
*Home Health and Energy Occupations* have a national educational attainment ranging from a [high school diploma or equivalent](#) to a [bachelor's degree](#) (Exhibit 9a).

**Exhibit 9a: National Educational Attainment for *Home Health and Energy Occupations* <sup>15</sup>**

Occupational Title	Typical Entry-Level Education
Compliance Officers	Bachelor's degree
Engineers, All Other	Bachelor's degree
Environmental Scientists and Specialists, Including Health	Bachelor's degree
Environmental Engineering Technologists and Technicians	Associate degree
Construction and Building Inspectors	High school diploma or equivalent

Based on online job postings between January 1, 2018 and December 31, 2020 in San Diego County, the top listed educational requirement for *Home Health and Energy Occupations* is a [bachelor's degree](#) (Exhibit 9b).<sup>16</sup>

**Exhibit 9b: Educational Requirements for *Home Health and Energy Occupations* in San Diego County<sup>17</sup>**



\*May not total 100% due to rounding

<sup>15</sup> EMSI 2021.01; QCEW, Non-QCEW, Self-Employed.

<sup>16</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

<sup>17</sup> "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified September 4, 2019. [bls.gov/emp/tables/educational-attainment.htm](https://bls.gov/emp/tables/educational-attainment.htm).

Exhibit 10 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2018 and December 31, 2020.

**Exhibit 10: Top Skills for *Home Health and Energy Occupations* in San Diego County<sup>18</sup>**

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> <li>• Quality Assurance and Control</li> <li>• Manufacturing Processes</li> <li>• Project Management</li> <li>• Quality Management</li> <li>• Scheduling</li> <li>• Manufacturing Engineering</li> <li>• Product Development</li> <li>• Six Sigma</li> <li>• Process Improvement</li> <li>• Budgeting</li> <li>• Data Analysis</li> <li>• Repair</li> <li>• Customer Service</li> <li>• Root Cause Analysis</li> <li>• Regulatory Affairs</li> </ul>	<ul style="list-style-type: none"> <li>• Communication Skills</li> <li>• Problem Solving</li> <li>• Teamwork / Collaboration</li> <li>• Planning</li> <li>• Writing</li> <li>• Research</li> <li>• Detail-Oriented</li> <li>• Troubleshooting</li> <li>• Organizational Skills</li> <li>• Written Communication</li> <li>• Computer Literacy</li> <li>• Physical Abilities</li> <li>• Verbal / Oral Communication</li> <li>• Creativity</li> <li>• Multi-Tasking</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Excel</li> <li>• Microsoft PowerPoint</li> <li>• Microsoft Word</li> <li>• Python</li> <li>• SAP</li> <li>• Linux</li> <li>• Software Development</li> <li>• Java</li> <li>• SolidWorks</li> <li>• SQL</li> <li>• Microsoft Project</li> <li>• C++</li> <li>• MATLAB</li> <li>• Software Engineering</li> <li>• Enterprise Resource Planning (ERP)</li> </ul>

<sup>18</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Exhibit 11 lists the top certifications that appeared in online job postings between January 1, 2018 and December 31, 2020.

**Exhibit 11: Top Certifications for Home Health and Energy Occupations in San Diego County<sup>19</sup>**

Top Certifications in Online Job Postings

1. Security Clearance
2. Certified Quality Engineer (CQE)
3. American Society For Quality (ASQ) Certification
4. Six Sigma Certification
5. Licensed Professional Engineer
6. Certified Quality Auditor (CQA)
7. CompTIA Security+
8. Six Sigma Green Belt Certification
9. Certified Information Systems Security Professional (CISSP)
10. Project Management Certification
11. Six Sigma Black Belt Certification
12. IPC Certification
13. Series 7
14. Project Management Professional (PMP)
15. Lean Six Sigma Certification

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<sup>19</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

### **Important Disclaimers**

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

This workforce demand report uses state and federal job projection data that was developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.